

Work Order ID 138255

Tuesday, October 27, 2015 11:06:33 AM

138255

Page 1

Item ID: D4287-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Uhmw U-Channel
 Start Date: 10/20/2015 Start Qty: 16.00 ***16*** Cust Item ID:
 Required Date: 10/26/2015 Req'd Qty: 16.00 ***16*** Customer:
 Reference:

Approvals: Process Plan: MJS Date: OCT 28 2015 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D4287	A

100 0.00

100 CL OCT 30 2015 16
 Purchasing

Purchasing Memo
 Issue P/O: 30322
 Material: UHMW (white)
 Supplier P#: McMaster-Carr 9928K53
 Material release note required

110 Receive & Inspect for Damage & Mat'l Certs 0.00

110 16^P 8p15-11 52
 Packaging Memo 0.01

Packaging

120 QC6- Inspect dimensions to drawing 0.00

120 70
 QC Memo 0.00

Quality Control

DAS
38
9-89

NOV 04 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER :							

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: <u>ST479</u>	0.00							
130									
Packaging	Memo	0.00				<u>KE</u>		DAS 28 9-89	NOV 05 2015
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.03							<u>MC</u> NOV 05 2015
Quality Control									

MC NOV 05 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Description Work Order Deviation				Disposition				Completed By																	
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Picklist Print

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Page 1

Work Order ID: 138255

138255

Parent Item: D4287-1

D4287-1

Parent Item Name: Uhmw U-Channel

Start Date: 10/20/2015

Required Date: 10/26/2015

Start Qty: 16.00

Required Qty: 16.00

Comments: IPP Rev:A 10.11.15 new issue DD Verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

9928K53

Purchased

No

110

f

0.0000

1

16

9928K53

UHMW U-Channel

16f SP 15-11-02.

DQA: _____ Date: _____



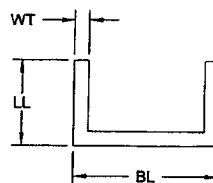
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Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

SPECIFICATION CONTROL DRAWING



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 138255 ML5
15-10-28

D4287-X UHMW U-CHANNEL

DART PART NUMBER	POSSIBLE SUPPLIER	SUPPLIER PART NUMBER	MATERIAL	PURCHASED LENGTH	BASE LENGTH (BL)	LEG LENGTH (LL)	WALL THICKNESS (WT)	WEIGHT (lbs)
D4287-1	McMASTER-CARR	9928K53	UHMW (WHITE)	96.0	1.05	0.75	0.250	2.11
D4287-3	McMASTER-CARR	8672K31	UHMW (WHITE)	96.0	1.25	0.75	0.125	1.29

RELEASED
2010-11-03
JWP

NOTES:

- 1) MATERIAL: PURCHASE PER TABLE
OR
UHMW BLACK TIVAR 1000 VIRGIN MATERIAL
REF. DART SPEC. MUHMW
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: NONE
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: PER TABLE

A	NEW ISSUE	MB	10.10.26
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.10.26		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. DSC-D4287	REV. A
TITLE UHMW U-CHANNEL	SCALE NTS
COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO30322

Purchase Order Date 10/30/2015

PO Print Date 10/30/2015

Page Number 1 of 3

Order From :

VU-MCM001

Ship To : DART AEROSPACE LTD

MCMASTER-CARR SUPPLY CO,
P.O. BOX 7690
CHICAGO, IL 60680-7690
US

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED

Contact Name

Vendor Phone 330 995 5500

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Ship To Contact

Terms

Net 10

Ship To Phone

Currency

USD

Ship Via:

Purolator ground ppd

FOB

FCA - (Free Carrier)

Ship Acct:

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	9928K53 AS PER DWG D4287 REV. A B138255	UHMW U-Channel	11/3/2015 Yes 11/3/2015		16.00 <i>SPS 11-02</i>	\$2.28	\$36.48
Line Total:							\$36.48
2	97787A661 AS PER DWG D4711 REV. C B138171	Expandable Pin	11/3/2015 Yes 11/3/2015		6.00 Each	\$114.68	\$688.08
Line Total:							\$688.08
3	92311A639 AS PER DWG D2747 REV. B B138333	SS SET SCREW	11/3/2015 Yes 11/3/2015		50.00 Each	\$0.66	\$33.10

Note:

10/30/2015



Packing List

200 Aurora Industrial Pkwy
Aurora OH 44202-8087
330-995-5500
cle.sales@mcmaster.com

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury ON K6A 1K7
Canada

Purchase Order
PO30322
Order Placed By
Chantal Lavoie

Page 1 of 1

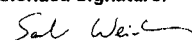
10/30/2015

McMaster-Carr Number
2769572-01

Line	Product	Ordered	Shipped
1	9928K53 Impact-Resistant UHMW Polyethylene U-Channel, 1" Base X 3/4" Legs, 1/4" Thick, 8' Long	16 Feet	16 ✓

QPS-11-02

ORIGINAL COMMERCIAL
INVOICE
CERTIFICATE OF ORIGIN

Shipping Weight (in kgs): 4		Number of Packages: 1		Invoice Amounts:		Merchandise Amount: \$36.48 Canadian GST/HST: \$7.80 Shipping Charges: \$23.56 Total (In USD): \$67.84	
Package Dimensions: 8 X 8 X 259 CM = .018 CUBIC M				Payment Terms: 2% discount on merchandise only if paid within 10 days, net 30 days			
Authorized Signature: 		Date: 30-Oct-2015		Remit payment to: (by mail) McMaster-Carr Supply Company PO Box 7690 Chicago, IL 60680-7690 USA		(by wire transfer) Bank of America Illinois 231 S LaSalle Chicago, IL 60697 ABA 071000039 Account 86666-02021 SWIFT BOFAUS3N	
Name: Sarah Weinberg		Title: Operations Mgr.		Page 1 of 1			